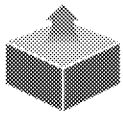

TERRATHERM

151 Suffolk Lane
Gardner, MA 01440
Phone: (978) 343-0300
Fax: (978) 632-3422
://www.terratherm.com"]

THERMAL REMEDIATION PROJECT EVALUATION FORM

1. PROJECT INFORMATION

a. Site Name

b. Site Location

c. Site owner

d. Responsible party (who needs the site cleaned up)

e. State regulatory agency overseeing the work

f. Environmental consultant

g. Project Consultant / Client contact

1) Name:
2) Company (if different than Env Consultant):
3) Mailing Address:
4) Phone/Fax:
5) Email:

h. State the financially responsible party

i. State budget available for cleanup, or best estimate (used for initial screening; helps save time if budget does not support thermal application)

j. State the remediation driver (property sale, exposure risk, consent order, other).

k. State schedule (if available)

1) Date TerraTherm preliminary cost quote / concept is required
2) Expected remedy selection date
3) Expected notice to proceed date
4) Expected remedy complete date
5) Date site needed for further / future use

l. State current and/or future planned cleanup activities associated with site

m. Site value is currently estimated at $ and when restored the site value is estimated to be $.

2. SOURCE AND HISTORY OF CONTAMINATION

a. how did release/s happen

b. when did release/s occur

c. estimated mass released

3. CURRENT CONTAMINATION

a. State environmental risk associated with the contamination (exposure paths and other).

b. List the contaminants of concern (COCs - the chemicals for which there will be cleanup goals).

c. State cleanup goals and criteria:

1) Soils in mg/kg (i.e., source)
2) Groundwater in mg/L or µg/L
3) State how remediation would control risk, if risk driven goals apply
4) Other

d. State any non-COC contaminants (SVOCs, oils, other) present within the treatment volume (*if large, can have affect on design for targeted COCs*)

e. State estimated COC contaminant mass

f. State estimated non-COC contaminant mass, if applicable.

g. COC Detections

1) Maximum in soil (mg/kg) with depth and location
2) Maximum in water (mg/L) with depth and location
3) Maximum in gas (mg/m3), if applicable, with locations
4) NAPL presence, if applicable, with depth and location (not applicable, suspected but not confirmed, % saturation)
   i. List NAPL composition, density, viscosity, where available.

4. TARGET TREATMENT ZONE (TTZ)

a. Dimensions of TTZ

1) Length
2) Width
3) Depth or vertical treatment interval if not to ground surface (should extend beyond any water table involved)

i. Describe how the TTZ minimum and maximum depths were determined

4) Estimated treatment volume (cubic meters or yards).

b. Describe geological layers from ground surface to beneath the TTZ (i.e., depositional type, thickness, continuity, grain size, permeability, organic content, fractures horizontal/vertical, etc.)

c. Describe hydrogeology (ground surface to below TTZ)

1) Depth to GW (substantial water table fluctuations since the contaminant release, annual GW level variations, etc.)
2) Permeability/ hydraulic conductivity ranges for the major layers/zones
3) Hydraulic gradient(s)
4) Aquifer thickness(es) /maximum depth(s) (aquifer depth intervals, aquifer type, etc.)
5) aquifer or slug test results
6) Estimate seepage velocities for the dominant saturated zones/aquifers

5. SUPPORTING FIGURES/DIAGRAMS

a. TTZ Footprint superimposed on site map

1) On map, clearly mark buildings or other obstructions that would fall within the treatment area
2) On map, highlight treatment sq ft area (be consistent with #4a information)

b. TTZ superimposed on conceptual site cross-section figure

1) Include vertical treatment interval (be consistent with #4a information) on figure
2) On figure, clearly identify the geological layers
3) On figure, clearly identify the water tables observed
4) On figure, clearly mark any underground obstructions
5) On figure, cross-reference to points on site map

6. TYPICAL ATTACHMENTS

a. Site map w/treatment area, utilities (i.e., gas, water, power, sewer, storm drains, etc.), site obstructions (above and below ground that would affect earth work, grading and drilling)

b. Cross-sections showing maximum depth of treatment

c. Drill logs (include grout type and casing/screen material)

d. If many COCs, COC list with observed max concentrations and cleanup goals

TERRATHERM

Please send the completed form and attachments to:
Gorm Heron
gheron@terratherm.com

7. OPTIONAL / HELPFUL INFORMATION

a. Optional Remediation Info

1) Natural attenuation: following source removal/reduction, is polishing via natural attenuation acceptable?

2) Excavation: has excavation and off-site treatment been evaluated?
- *i. State quoted price and affected soil volume.*

3) Other remedies:
- *i. State other RA taken and/or on-going*
- *ii. State their effectiveness*

b. Optional Thermal / Process Equipment / Utilities / Labor info

1) If WWTP available for use at the site
- *i. list principles of treatment*
- *ii. system capacity (gpm or m3/hr)*
- *iii. discharge point*
- *iv. discharge quality*

2) If no on-site WWTP available for use
- *i. discharge points (e.g., sewer, surface water, other)*
- *ii. discharge requirements*
- *iii. who regulates discharge*

3) If vapor treatment system available for use at the site
- *i. list principles of treatment,*
- *ii. capacity of system (scfm or m3/hr),*
- *iii. emission point*
- *iv. discharge quality*

4) No on-site vapor treatment system available for use
- *i. State off-gas treatment requirements*

5) List other existing equipment available to be included in the design of a thermal system

6) State availability of facility/consultant personnel (i.e., on-site or otherwise) to perform certain types of tasks, if applicable (i.e., conduct operational monitoring)

7) *State the utility availability and the responsible party in table below:*

	Available?	*Rate or capacity*	*Agency*
Power		*KVA, kW*	
Telephone		*# lines*	
Fresh water		*gpm, psig*	
Fuel lines (natural gas, other)		*cfh*	

c. *Optional Project Information*

1) *State the required deliverables (i.e., project design, work plan, etc.)*
2) *State revision cycles of deliverables (i.e., draft, draft final, final, etc.)*
3) *State the required project reporting (i.e., monitoring data)*
4) *Any contractual requirements, if known a this time*